

REMARKS

In accordance with the foregoing, claims 1-7 and 9-13 have been amended for clarification. New claims 14 and 15 have been added, thus, claims 1-15 are pending and under consideration. Withdrawal of the rejection is requested.

REJECTION UNDER 35 U.S.C. § 103 (a):

In item 2 of the outstanding Office Action, claims 1-13 were rejected under 35 U.S.C. §103(a) in view of U.S. Patent No. 5,689,711 ('711) and U.S. Patent No. 5,272,642 ('642). The rejection is traversed and reconsideration is requested.

The present invention discloses a three-dimensional model management system according to which design dependencies are created to provide efficient utilization of data created by three-dimensional computer-aided design (CAD) systems.

'711 discusses a method and apparatus for producing a dependency graph representation of a design based on an execution of software system functions during a design session.

'642 discusses an apparatus by which the display, search, and modification of elements of a figure, three-dimensional curves, and three-dimensional forms can be effected by a uniform operation method.

A user interface of '711 receives a user's input as a conventional CAD command during a design session (see, column 7, lines 41-43 of '711), and calls a corresponding associative application program interface (API) (see, column 7, lines 46-49, and column 9, lines 46-52 of '711). The associative API and a graph controller then generate a dependency graph using which the system generates a computer program in a non-proprietary language (see, column 7, lines 54-58, and FIG. 1 of '711) to allow the user to edit the computer program to represent a modified product design (see, column 7, lines 54-58 of '711). The information received by the user interface consists of data relating to length, width, height, etc., of the object designed by the user (see, FIG.2 and corresponding text of '711).

The attribute information acquired according to the present invention relates to part names, authors, and creation dates type characteristics of a given object (see, claims 1, 9, 12, and 13, page 10, lines 5-7, and page 15, line 24 through page 16, line 1-2 of the specification of the present invention). Acquiring the part name defined in the CAD system allows the present invention to perform a function based on the part name, such as placing an order for the object.

For example, when a user combines two or more products for creating a single three-dimensional model, the present invention sorts design dependencies of the combined products in accordance with the "hierarchical structure information of individual three-dimensional parts constituting the three-dimensional model expressing combination structure of each part including three-dimensional part specific to the computer aided design system" (see, claims 1, 9, 12 and 13). This permits the present invention to maintain individualized information of each combined product for use with systems such as product data management systems. This is unlike the apparatus of '711, which merely collects information in relation to the formation and location of the object designed by the user.

In '642, a hierarchical data structure of a figure is maintained by acquiring and storing figure elements such as points, lines, circles, and curves in a layer table, which are then arranged upon an input from a user (see, FIG. 4 and FIG. 5 of '642) to generate the figure data and figure layer via a figure processing module (see, column 4, lines 56-59 of '642). Similar to '711, the '642 method maintains a linked hierarchy of layers constituting elements of a figure and does not disclose obtaining "part name" of a three-dimensional model defined in a CAD system.

The systems of '642 and '711 fail to teach or suggest a three-dimensional model management system, which acquires part name of an individual part constituting a three-dimensional model in a CAD system. In addition, '642 and '711 do not teach a three-dimensional model management system that obtains hierarchical structure expressing combination structure of each part of a three-dimensional model.

Accordingly, withdrawal of the rejection is requested.

NEW CLAIMS:

New claim 14 has been added to highlight that the method of the present invention also acquires "author and creation information of individual three-dimensional parts", which are not taught or suggested by the references cited.

New claim 15 has been added to emphasize that the present invention obtains individualized information of the "...individual three-dimensional parts defined by a computer-aided design system and hierarchical information expressing combination structure of each part including three-dimensional part specific to the computer-aided design system". Accordingly, an efficient three-dimensional model management system for maintaining information consistent with systems maintaining individualized information of combined products is

provided.

The feature of the new claims are not taught or suggested by the prior art.

CONCLUSION:

In accordance with the foregoing, it is respectfully submitted that all outstanding objections and rejections have been overcome and that all pending claims are patentably distinguishable over the cited references.

There being no further outstanding objections or rejections, the application is submitted as being in condition for allowance, which action is earnestly solicited.

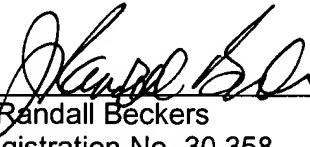
Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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Date: 3/11/4

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